Notice of Allowability	Application No.	Applicant(s)	
	10/501,933	MENDRICK ET AL.	
	Examiner	Art Unit	
	LARRY D. RIGGS II	1631	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to *amendments and arguments filed 04 August 2009*.

2. ☒ The allowed claim(s) is/are *70-79*.

3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
   a) ☐ All b) ☐ Some* c) ☐ None of the:
   1. ☐ Certified copies of the priority documents have been received.
   2. ☐ Certified copies of the priority documents have been received in Application No. _____ .
   3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

   * Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.

5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
   (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
   1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
   (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.

   Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).

6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
3. ☒ Information Disclosure Statements (PTO/SB/08), Paper No./Mail Date 2/27/2007
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application
6. ☐ Interview Summary (PTO-413), Paper No./Mail Date _____ .
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____.

/Marjorie Moran/
Supervisory Patent Examiner, Art Unit 1631

Information Disclosure Statement

It is noted that the although all references cited on IDS filed 2/27/2007 wer4e considered, some citations on the IDS itself were incomplete. The Examiner has annotated the IDS to bring it into compliance with 37 CFR 1.98. A copy of the annotated IDS, with a new signature and date, is attached hereto.

EXAMINER'S AMENDMENT

An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone response with John Witherspoon on 23 November 2009.

The application has been amended as follows:

Listing of the claims:

1-69 (Cancelled)

70. (Currently Amended) A method for determining whether a test compound is a hepatotoxin, comprising:

(a) exposing liver tissue or liver cells to the test compound;

(b) preparing a normalized gene expression profile of at least ten genes for said liver tissue or liver cells, wherein the gene expression profile contains the differential gene expression levels for said at least ten genes upon exposure to the test compound, and wherein said at least ten genes are listed in one of Tables 5A-5WWW;

(c) comparing the gene expression profile to a hepatotoxicity model, the hepatotoxicity model comprising:

(i) normalized mean expression levels from one of Tables 5A-5WWW, of said at least ten genes in liver tissue or liver cells exposed to a known hepatotoxin,

(ii) normalized mean expression levels from one of Tables 5A-5WWW,of said at least ten genes in unexposed liver tissue or liver cells not exposed to a hepatotoxin; and

(d) scoring the comparison to determine whether the test compound is a hepatotoxin.

71. (Previously Presented) The method of claim 70, wherein the gene expression profile contains the differential gene expression levels for at least 100 genes listed in one of Tables 5A-5W-WW, and wherein the hepatotoxicity model comprises the gene expression levels in said one of Tables 5A-5WWW.

72. (Previously Presented) The method of claim 70, wherein said gene expression profile is generated by hybridization of nucleic acids to a microarray, and is normalized

for hybridization conditions, label intensity, and reading efficiency prior to comparison.

73. (Previously Presented) The method of claim 70, wherein the hepatotoxicity model comprises all the information in one of Tables 5A-5WWW.

74. (Previously Presented) The method of claim 70, wherein the liver tissue or liver cells are exposed to the test compound in vivo and the hepatotoxicity model is generated by exposure of liver tissue or liver cells to the known hepatotoxin in vivo.

75. (Previously Presented) The method of claim 70, wherein the known hepatotoxin is associated with at least one of carcinogenesis, cholestasis, hepatitis, liver enlargement, inflammation, liver necrosis, liver steatosis, and peroxisome proliferation.

76. (Previously Presented) The method of claim 70, wherein the known hepatotoxin is one or more of acetominophen, 2-acetylaminofluorene (2-AAF), acyclovir, ANIT, AY-25329, BI liver toxin, chloroform, bicalutarnide, carbon tetrachloride, CI-1000, clofibrate, colchicine, CPA, diclofenac, diflunisal, dimethylnitrosamine (DMN), dioxin, 17a-ethinylestradiol, gemfibrozil, hydrazine, indomethacin, LPS, menadione, phenobarbitol, tacrine, thioacetamide, valproate, WY-14643, and zileuton.

77. (Previously Presented) The method of claim 70, wherein the gene expression profile contains the differential gene expression levels for at least 20 genes listed in one

of Tables 5A-5WWW, and wherein the hepatotoxicity model comprises the gene expression levels in said one of Tables 5A-5WWW.

78. (Previously Presented) The method of claim 70, wherein the gene expression profile contains the differential gene expression levels for at least 30 genes listed in one of Tables 5A-5WWW, and wherein the hepatotoxicity model comprises the gene expression levels in said one of Tables 5A-5WWW.

79. (Previously Presented) The method of claim 70, wherein the comparison is scored by determining whether the test compound induces a change in expression of the at least 10 genes in the same direction as the known hepatotoxin.

The following is an examiner's statement of reasons for allowance:

No art shows determining whether a test compound is a hepatotoxin by comparing a hepatotoxicity model of at least ten genes listed in Tables 5A-5WWW with the differential expression of at least ten genes listed in Tables 5A-5WWW that results from liver tissue or liver cells exposed to the test compound.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

Claims 70-79 are allowed.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to LARRY D. RIGGS II whose telephone number is (571)270-3062. The examiner can normally be reached on Monday-Thursday, 7:30AM-5:00PM, ALT. Friday, EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Marjorie Moran can be reached on 571-272-0720. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/LDR/
Larry Riggs
Examiner, Art Unit 1631

/Marjorie Moran/
Supervisory Patent Examiner, Art Unit 1631